of survival functions, used Cox proportional hazard models, and adjusted standard errors to account for survey design. **RESULTS:** The duration of treatment was not different for the 3 interferons and Copaxone, with 72% of patients continuing with the therapy after 3 years, while 1.7% of patients on Novantrone continued treatment after 3 years. Having SPMS increased the risk of terminating DMA by 67% (p = 0.01) and having moderate disability increased the risk by 77% (p = 0.001) compared with less advanced disease. Older patients and those with longer duration of MS were more likely to stay on DMA. Doctor's advice was the main reason for starting (47%) or stopping (20%) DMA therapy, followed by side effects (10% and 27%, respectively), and burden of drug administration (15% and 10%, respectively). After Avonex, 37% of patients did not take any DMA for at least 6 months, 17% switched to Copaxone and 15% to Rebif. After Betaseron, 51% stayed off DMAs while 19% switched to Copaxone. 37% of Copaxone users switched to no DMA, and 16% switched to Avonex. **CONCLUSION:** The majority of MS patients continued treatment for three years and more. Consistent with the risk of cardiotoxicity associated with long-term use, most patients discontinued Novantrone within three years.

PND46

THE RISKS OF MULTIPLE GENERIC SUBSTITUTION OF ANTIEPILEPTIC DRUGS : THE CASE OF TOPIRAMATE

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OBJECTIVE: Generic substitution of antiepileptic drugs (AEDs) may be problematic in patients receiving multiple generics because variability in drug serum concentrations can induce breakthrough seizures. To investigate clinical consequences of generic substitution of one versus multiple generics of topiramate (Topamax®). **METHODS:** Claims data of Régie de l'assurance-maladie du Québec (RAMQ) from January 2006-October 2007 were used. Patients with epilepsy (ICD-9 345 or 780.3) treated with topiramate (Canadian patent expired January 2006) were selected. An open-cohort person-time design was used to classify the observation period into mutually exclusive periods of brand, single-generic, and multiple-generic use. One-year switching rates of brand-to-generic and switchback-to-brand were computed using Kaplan-Meier methodology. Medical resource utilization (frequency per person–year) was compared among the three periods using multivariate regressions adjusted for demographics, treatment characteristics and comorbidities. **RESULTS:** A total of 948 patients were observed during 1105 person-years (p/y) of brand use, 233 p/y of single-generic use, and 92 p/y of multiple-generic use. Approximately 38% of brand users switched to generic topiramate, of whom 14% switched back to brand. Generic users received on average 1.4 generic versions, with 23% taking two or more versions. Multiple-generic use was associated with increased utilization of both AEDs and non-AED drugs compared to brand (RR = 1.27, 95%CI = 1.24; 1.31) and single-generic use (RR = 1.10, 95%CI = 1.06; 1.13) after covariate adjustment. Multiple-generic use was associated with significantly higher hospitalization rate (0.48 vs. 0.83 visit/p/y, RR = 1.65, 95%CI = 1.28; 2.13) and hospital length of stay (2.6 vs. 3.9 days/p/y, RR = 1.43, 95%CI = 1.27; 1.60), but the effect was less pronounced in single-generic use (hospitalization: RR = 1.08, 95%CI = 0.88; 1.34, length of stay: RR = 1.12, 95%CI = 1.03; 1.23). The risk of head injury or fracture was 5 times higher (HR = 5.43, 95%CI = 4.23; 6.97) following a generic-to-generic switch compared to brand use. **CONCLUSION:** Multiple-generic substitution of topiramate was significantly associated with outcomes, such as hospitalizations, fractures and injuries.

PND47

ARE THERE GENDER AND ETHNIC DISPARITIES IN THE USE OF INSOMNIA PRESCRIPTIONS?

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OBJECTIVE: To examine if pharmacological treatment of insomnia varied with patient's gender, ethnic, or both. **METHODS:** This was a cross-sectional study using data from 2004 National Ambulatory Medical Care Survey (NAMCS) by National Center for Health Statistics. We identified visits at which at least one frequently used insomnia prescription was prescribed as defined from the American Insomnia Association. A series of population-based descriptive analyses were performed to estimate the national weighted frequency of each drug. Weighted chi-square statistics were used to compare insomnia drugs uses by patients with different gender and ethnic characteristics. To provide national estimates, all analyses incorporated sample weights and standard errors corrections to adjust for the complex sampling design employed by NAMCS. **RESULTS:** A total of 910 million outpatient visits were estimated in the US. in 2004. A total of 24.98 million visits at least one insomnia prescription was prescribed including 3.38 million visits(13.6%) with FDA approved benzodiazepine receptor agonist; 8.5 million visits(34.1%) with FDA approved non-benzodiazepine receptor agonist; and 13.1 million visits (52.4%) with antipsychotic medications which is used for insomnia treatment without FDA approved. Female received significant more insomnia prescription than male (16.4 mil. VS. 8.58 mil., P < 0.0001). Patients who are Black and Hispanics received less insomnia prescription than those who are white (P < 0.0001). **CONCLUSION:** The study found a significant gender and ethnic disparities in the use of insomnia prescriptions especially to the use of related costly non-benzodiazepine receptor agonist. The problems of access barriers to health care for the minority population are still significant. The study also provided evidence that the non-FDA approved prescription medications that were used significantly frequent to treat insomnia than currently approved agents. The issue of off-label treatment for sleep has been raised concerns about the adverse effects that develop during the insomnia treatment and limit the efficacy of these medications.

PND48

THE USE OF BOTULINUM TOXIN TYPE A FOR MIGRAINE OR HEADACHE IN THE USA

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OBJECTIVE: Since the early 1990s BoNT-A has been used as prophylaxis treatment for headaches, including migraine. Evidence suggests that this use is primarily in migraine patients who are refractory to other prophylaxis treatments. This analysis aims to evaluate the patterns of use and the characteristics of patients treated with botulinum toxin type A (BoNT-A; BOTOX®; Allergan, Inc, Irvine, CA) for migraine or headache. **METHODS:** A retrospective, database claims analysis examining pharmacy and medical claims from the Source Lx database (WoltersKluwer